

INTERNATIONAL STANDARDS FOR PHYTOSANITARY MEASURES

***[PARAGRAPH 1]* CATEGORIZATION OF COMMODITIES ACCORDING TO THEIR PHYTOSANITARY RISK**

(200-)

*[Work programme topic: Classification of commodities by level of processing and intended use and phytosanitary risk]
[Specification No. 18]*

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[3]

INTRODUCTION

[4] SCOPE

[5] This standard provides guidance for importing contracting parties on how to categorize commodities according to their phytosanitary risk when considering import requirements. This categorization could be useful in identifying whether further analysis is required or not.

[5] The first stage of categorization is based on whether the commodity has been processed and, if so, the method and degree of processing to which the commodity has been subjected before export. A second stage of categorization of commodities is based on their intended use after import.

[7] Contaminating pests or storage pests that may become associated with the commodity after processing are not considered in this standard.

[8] REFERENCES

[9] *Glossary of phytosanitary terms*, 2008. ISPM No. 5, FAO, Rome.

[10] *Guidelines for a phytosanitary import regulatory system*, 2004. ISPM No. 20, FAO, Rome.

[11] *Guidelines for inspection*, 2005. ISPM No. 23, FAO, Rome.

[12] *Guidelines for phytosanitary certificates*, 2001. ISPM No. 12, FAO, Rome.

[13] *Guidelines for regulating wood packaging material in international trade*, 2002. ISPM No. 15, FAO, Rome.

[14] *International Plant Protection Convention*, 1997. FAO, Rome.

[15] *Pest risk analysis for quarantine pests including analysis of environmental risks and living modified organisms*, 2004. ISPM No. 11, FAO, Rome.

[16] *Pest risk analysis for regulated non-quarantine pests*, 2004. ISPM No. 21, FAO, Rome.

[17] *Regulated non-quarantine pests: concept and application*, 2002. ISPM No. 16, FAO, Rome.

[18] DEFINITIONS

[19] Definitions of phytosanitary terms used in the present standard can be found in ISPM No. 5 (*Glossary of phytosanitary terms*).

[20] OUTLINE OF REQUIREMENTS

[21] The concept of phytosanitary risk categorization of commodities combines the method and degree of processing to which a commodity has been subjected with the commodity's intended use and consequent potential of this pathway for the introduction of regulated pests.

[22] This combination allows phytosanitary risks associated with specific commodities to be assigned to categories. The objective of such categories is to provide importing contracting parties with guidelines to better identify the need for a pathway-initiated pest risk analysis (PRA) and to facilitate the decision-making process regarding the possible establishment of import requirements.

[23] This standard outlines four different phytosanitary risk categories (two for processed commodities, two for unprocessed commodities) and provides some examples of the methods of processing and the associated resultant commodities.

[24] **BACKGROUND**

[25] As a result of the method of processing to which they have been subjected, some commodities moving in international trade do not have the potential to introduce regulated pests and so should not be regulated (i.e. phytosanitary measures are not required). Other commodities, after processing, may still present a phytosanitary risk and so may be subject to appropriate phytosanitary measures.

[26] Some intended uses of commodities (e.g. planting) have a much higher probability of introducing pests than others (e.g. processing) (see ISPM No. 11: *Pest risk analysis for quarantine pests including analysis of environmental risks and living modified organisms*, 2004, section 2.2.1.5).

[27] The concept of phytosanitary risk categorization of commodities considers the method and degree of processing to which a commodity has been subjected with its intended use and consequent potential as a pathway for introduction of regulated pests.

[28] The objective of the categorization in this standard is to classify commodities according to their phytosanitary risk to provide importing contracting parties with guidelines to better identify the need for a pathway-initiated PRA and facilitate the decision-making process.

[29] Article VI.1b of the IPPC states: “Contracting parties may require phytosanitary measures for quarantine pests and regulated non-quarantine pests, provided that such measures are ... limited to what is necessary to protect plant health and/or safeguard the intended use” This standard is based on the concepts of intended use of a commodity and the method and degree of its processing, which are also addressed in other ISPMs as outlined below.

[30] Intended use:

- ISPM No. 11 (*Pest risk analysis for quarantine pests including analysis of environmental risks and living modified organisms*, 2004), sections 2.2.1.5 and 2.2.3. When analysing the probabilities of transfer of pests to a suitable host and of their spread after establishment, one of the factors to be considered is the intended use of the commodity.
- ISPM No. 12 (*Guidelines for phytosanitary certificates*), section 2.1. Different phytosanitary requirements may apply to the different intended end uses as indicated on the phytosanitary certificate.
- ISPM No. 16 (*Regulated non-quarantine pests: concept and application*), section 4.2. Risk of economically unacceptable impact varies with different pests, commodities and intended use.
- ISPM No. 21 (*Pest risk analysis for regulated non-quarantine pests*), which uses extensively the concept of intended use.

[31] Method and degree of processing:

- ISPM No. 12 (*Guidelines for phytosanitary certificates*), section 1.1, states: “Importing countries should **only** require phytosanitary certificates for regulated articles. ... Phytosanitary certificates may also be used for certain plant products that have been processed where such products, by their nature or that of their processing, have a potential for introducing regulated pests (e.g. wood, cotton). ...
“Importing countries should not require phytosanitary certificates for plant products that have been processed in such a way that they have no potential for introducing regulated pests, or for other articles that do not require phytosanitary measures.”
- ISPM No. 15 (*Guidelines for regulating wood packaging material in international trade*), section 2, states: “Wood packaging made wholly of wood-based products such as plywood, particle board, oriented strand board or veneer that have been created using glue, heat and pressure, or a combination thereof, should be considered sufficiently processed to have eliminated the risk associated with the raw wood. It is unlikely to be infested by raw wood pests during its use and therefore should not be regulated for these pests.”
- ISPM No. 23 (*Guidelines for inspection*), section 2.3.2. Inspection can be used to verify the compliance with some phytosanitary requirements. Examples include degree of processing.

[32] Intended use together with method and degree of processing:

- ISPM No. 20 (*Guidelines for a phytosanitary import regulatory system*), section 5.1.4, indicates that PRA may be done on a specific pest or on all the pests associated with a particular pathway (e.g. a commodity). A commodity may be classified by its degree of processing and/or its intended use.
- ISPM No. 23 (*Guidelines for inspection*), section 1.5. One of the factors to decide the use of inspection as a phytosanitary measure is the commodity type and intended use.

[33] **REQUIREMENTS**

[34] The use of the phytosanitary risk categories by National Plant Protection Organizations (NPPOs) in determining any phytosanitary regulations should take into account, in particular, the principles of technical justification, pest risk analysis, risk management, minimal impact, harmonization and sovereignty.

[35] When the import requirements for a commodity need to be determined, the importing country may categorize it according to its risk level. Such categorization may be used to identify groups of commodities for which further analysis is required. In order to categorize the commodity, the following should be considered:

- method and degree of processing
- intended use of the commodity.

[36] Commodities can be:

- processed: those in which the nature of the material is transformed in differing ways and degrees
- non-processed: those in which the nature of the material is not transformed.

[37] This standard does not consider cases of deviation from intended use.

[38] **1. Elements of Categorization of Commodities according to their Phytosanitary Risk**

[39] To identify a commodity's phytosanitary risk category, the method and degree of processing to which a commodity has been subjected should be considered before its intended use. The method and degree of processing, by itself, could significantly change the nature of the commodity, rendering it unable to harbour pests. Such a commodity should not be deemed to require phytosanitary measures.

[40] However, if, after processing, a commodity may still present a risk of harbouring or spreading regulated pests, the intended use should then be considered.

[41] The presence of contaminating pests, as defined in ISPM No. 5 (*Glossary of phytosanitary terms*), or infestation by other pests that may become associated with the commodity after processing (e.g. storage pests) is not considered in the phytosanitary risk categorization process outlined in this standard. However, it is important to note that the methods of processing described in this standard will, in most cases, render the commodity free of pests at the time of processing, but that some such commodities may have the capacity to become subsequently contaminated, infested or reinfested. Common contaminating pests may be detected during inspection.

[42] **1.1 Method and degree of processing before export**

[43] The primary objective of processing is to modify a commodity for other than phytosanitary purposes, but processing may also have an effect on any associated regulated pest, and hence affect the potential of the commodity to harbour pests.

[44] It is necessary to know the type of processing undertaken in order to categorize the commodity. In some cases it is also necessary to know the degree of processing (e.g. temperature and heating duration) in addition to the type of processing used.

[45] The NPPOs of the importing countries may request information about the method and degree of processing and its verification, if appropriate (e.g. when the degree of processing is not evident).

[46] Based on the method and degree of processing, commodities can be broadly divided into three types as follows:

- processed to the point where the commodity does not remain capable of harbouring or spreading pests

- processed to a point where the commodity remains capable of harbouring or spreading regulated pests
- not processed.

[47] If an assessment of the method and degree of processing concludes that a commodity does not have the capacity to harbour regulated pests, there is no need to consider intended use and the commodity should not be regulated. However, if an assessment of the method and degree of processing concludes that a commodity retains the capacity to harbour or spread regulated pests, the intended use should then be considered.

[48] For non-processed commodities the intended use should always be considered.

[49] **1.2 Intended use after import**

[50] Intended use is defined as the declared purpose for which plants and plant products or other regulated articles are imported, produced or used (ISPM No. 5: *Glossary of phytosanitary terms*). The intended use of a commodity may be for:

- planting
- consumption and other uses without further transformation, including decorative and functional uses
- processing.

[51] The intended use may affect a commodity's potential to introduce or spread regulated pests, and hence the phytosanitary risks associated with the commodity. Some intended uses of the commodity (e.g. planting) are associated with a higher probability of introducing regulated pests than others (e.g. processing). This may result in the application of different phytosanitary measures for a commodity based on its intended use (e.g. soybean seed for sowing and soybean grain for human consumption). Any phytosanitary measures applied should be consistent with the phytosanitary risk presented.

[52] **2. Phytosanitary Risk Categories and Measures**

[53] Taking into account the method and degree of processing to which a commodity has been subjected, its intended use and its subsequent potential for harbouring or spreading regulated pests allows phytosanitary risk categories to be assigned.

[54] Each phytosanitary risk category is described below, along with guidance on the need for phytosanitary measures.

[55] **Category 1.** Commodities have been processed to the point where they have no capacity to harbour or spread regulated pests. Hence, no further analysis should be necessary and phytosanitary measures should not be applicable. Annex 1 provides examples of processes and the resultant commodities that can meet the criteria for category 1.

[56] **Category 2.** Commodities have been processed but may still harbour some regulated pests. The intended use may be, for example, consumption or further processing. The NPPO of the importing contracting party may determine that a PRA is necessary. Annex 2 provides examples of processes and the resultant commodities that can meet the criteria for category 2.

[57] Although commodities in category 2 have been processed, the processing method may not eliminate all regulated pests of concern. If it is determined that the method and degree of processing do not eliminate regulated pests, consideration should then be given to the intended use of the commodity in order to evaluate the probability of establishment and spread of the pests. In this case, a PRA may be needed to determine this.

[58] To facilitate the categorization, exporting contracting parties should, on request, provide detailed information on method or degree of processing (e.g. temperature of cooking, duration of boiling or size of chopping). Such information should assist importing contracting parties in judging the category of individual commodity appropriately.

[59] In cases where the evaluation of the method and degree of processing has determined that the processed commodity presents no phytosanitary risk and therefore should not be subject to phytosanitary measures, the commodity should be reclassified into category 1.

- [60] **Category 3.** Commodities have not been processed and the intended use is, for example, consumption or processing. PRA should be carried out.
- [61] Examples of commodities in this category include fresh fruits and vegetables for consumption and cut flowers.
- [62] Because commodities in categories 2 and 3 have the potential to harbour or spread regulated pests, determining phytosanitary measures may be required based on the result of PRA. The phytosanitary measures determined through the PRA may differ depending on the intended use of the commodity (e.g. consumption or processing). This assessment may also include the risk of change of the intended use.
- [63] **Category 4.** Commodities have not been processed and the intended use is planting. PRA should be carried out.
- [64] Examples of commodities in this category include propagative material (e.g. cuttings, seeds, seed potatoes and other plants to be planted).
- [65] Because commodities in phytosanitary risk category 4 are not processed and their intended use is for propagation or planting, their potential to introduce or spread regulated pests is higher than that for other intended uses. Therefore a PRA is always needed to establish phytosanitary measures. For this category, some specific phytosanitary measures often already exist.
- [66] The analytical process outlined in this ISPM is illustrated in the flow chart of Appendix 1.

**EXAMPLES OF METHODS OF PROCESSING WITH RESULTANT COMMODITIES
THAT DO NOT REMAIN CAPABLE OF HARBOURING OR SPREADING PESTS**

PROCESS	DESCRIPTION	EXAMPLE OF RESULTANT COMMODITY	OBSERVATIONS
Carbonization	Action to reduce an organic body to charcoal	Charcoal	
Extraction	Physical or chemical process to obtain specific components and refined products, usually through mass-transfer operations	Oils, alcohol, essences	Normally done under high temperature conditions
Fermentation	A process by which food/plant material goes through a chemical change caused by enzymes produced from micro-organisms (bacteria, moulds or yeasts), usually rendering desirable end foods products	Wines, liquors, beer and other alcoholic beverages, fermented vegetables	May be combined with pasteurization
Freezing	Action of keeping fruits and vegetables at temperatures below freezing to preserve quality	Frozen fruits and vegetables	Product should be kept at a temperature as low as possible (–18°C for cold storage; –12°C for display). <i>Code of hygienic practice for refrigerated packaged foods with extended shelf-life</i> , 1999. CAC/RCP 46, Codex Alimentarius, FAO, Rome.
Malting	Action of allowing the germination of cereal seeds in order to develop its enzymatic activity to digest starchy materials into sugars to favour yeast fermentation and improve the palatability of fermented beverages	Malted barley	
Pasteurization	Thermal processing of foods in order to kill undesirable or harmful micro-organisms	Pasteurized juices, alcoholic beverages (beer, wine)	Combined with fermentation, refrigeration (at 4°C) and proper packaging and handling. Process time and temperature depends on type of product.
Preservation in liquid	The process of preparing foods in a suitable liquid medium (e.g. in syrup, brine, oil, vinegar or alcohol) to allow them to be kept for long periods of time without spoiling or deteriorating	Preserved fruits, vegetables, tubers, bulbs	Proper conditions of pH, salinity etc. must be kept
Roasting	To dry and brown by exposure to dry heat	Roasted peanuts, coffee and nuts	High temperature and long times of exposure destroy microbial populations
Sterilization	Complete destruction of pests and micro-organisms by the application of heat (vapours, dry heat and boiling water), irradiation or chemical treatments	Sterilized substrates, juices	Sterilization may not change the nature of the commodity in an evident way, but eliminates pests

[row1]

[row11]

[row12]

[row13]

PROCESS	DESCRIPTION	EXAMPLE OF RESULTANT COMMODITY	OBSERVATIONS
Commercial sterilization	Thermal processing of foods that leads to shelf-stable products in containers by destruction of all pathogenic, toxin-forming and spoilage organisms	Canned vegetables, soups; UHT (ultra-high temperature) juices	Most commercially sterilized foods have a shelf life of 2 years. Process time and temperature for canned products depends on type of product, treatment and geometry of container. Aseptic processing and packaging involves commercial sterilization of a flowing product and then packaging in sterile environment and package.
Sugar infusing	Action of coating and infusing fruits with sugar	Crystallized fruit, fruit infused with sugar	Usually combined with pulping, boiling, drying
Tenderizing	A process to increase the moistness of dried or dehydrated items by the application of steam under pressure or submerging in hot water	Tenderized fruits	Usually applied to a dried commodity

**EXAMPLES OF METHODS OF PROCESSING WITH RESULTANT COMMODITIES
THAT DO REMAIN CAPABLE OF HARBOURING OR SPREADING PESTS**

PROCESS	DESCRIPTION	EXAMPLE OF RESULTANT COMMODITY	OBSERVATIONS
Chipping (of wood)	Wood reduced to small pieces	Chipped wood	
Chopping	To cut into pieces	Chopped fruit, nuts, grains, vegetables	
Cooking (enough boiling, heating, microwaving, including rice parboiling)	Transforming raw material and making suitable for consumption by adequate heating	Properly cooked items	Frequently involves chemically transforming a food, thus changing its flavour, texture, appearance, or nutritional properties
Crushing	Breaking plant material into pieces by application of mechanical force	Herbs, nuts	Usually applied to dried products
Drying/ dehydration	Removal of moisture by natural (e.g. sun) or artificial means, usually for preservation but also to decrease weight and bulk	Dehydrated fruit, sun dried tomatoes	If the product has low water activity, micro-organisms will not spoil it
Painting (including lacquering, varnishing)	To coat with paint	Wood and canes, fibres	
Peeling and shelling	Removal of the outer or epidermal tissues or pods	Peeled fruits, grains, nuts	
Polishing (of grain)	To make smooth and shiny by rubbing or chemical action removing the outer layers from grains	Polished rice	
Post-harvest handling	Operations such as grading, sorting, washing or brushing, and/or waxing fruits and vegetables	Graded, washed, or brushed fruit and vegetables	Usually carried out in packing houses
Pureeing (including blending)	Making homogenized and spreadable fruit and/or vegetable tissues, e.g. by high-speed mixing, screening through a sieve or using a blender	Pureed items	Normally combined with pulping fruits or vegetables

FLOW CHART ILLUSTRATING CATEGORIZATION OF COMMODITIES ACCORDING TO THEIR PHYTOSANITARY RISK

